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Ouvrage recensé :

Russ, John C. (1995) *The Image Processing Handbook*. Boca Raton, CRC Press, 2nd Edition, 674 p. (ISBN 0-8493-2516-1)

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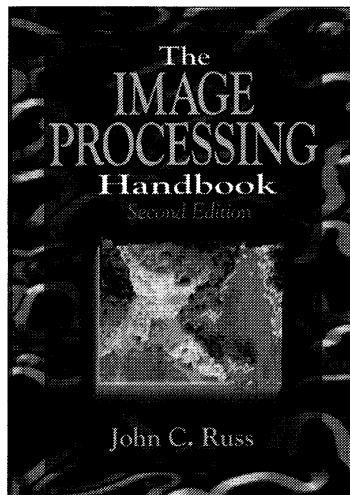
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John C. Russ states that we are visual creatures who receive 99 % of the information on our surroundings through our eyes. As many readers enter the "information age" and depend upon images as major data source, a closer relationship to graphical manipulation (image processing) may be established. According to the author: "Image processing is used for two [...] purposes: improving visual appearance and preparing images for measurement". The enhancement and preparation of images for analytical operations is the premise for this handbook, where its "thrust [...] remains teaching by example". J.C. Russ states, "few people learn the principals of image processing from the equations". In essence, this handbook formulates the basic methods for technical issues in image processing and makes this somewhat obscure topic more approachable.



J.C. Russ documents this "glitzy science" by comparing the many options, thus, demonstrating what current "realistic" data types may exist. In the opening chapters, we are presented with a description of the physical elements and requirements that limit current imaging technology. After describing scanner mechanics and coloration, the handbook examines specific operations. Although the scanning process is a physically "noisy" one, the removal of image flaws can be reduced by a number of averaging methods and/or ranking procedures. Image enhancement can offer relative procedures in contrast manipulation, statistical equalization, and image mathematics. Pixel reflectance variables in "feature space" can be weighted in your display, uncovering image details otherwise unseen by normal viewing.

This handbook approaches topics related to using multiband data and general image classification. The increasing use of remote sensing in a geographic information system (GIS) provides geographers with access to satellite images in a variety of platform specific spectral and spatial resolutions. Although knowledge and application in remote sensing are constantly expanding, the handbook briefly covers this topic. Other chapters illustrate binary operations such as erosion, dilation, opening, closing and Boolean logic. Image measurement, determining location based on orientation and associated image features, is also documented, using repeated examples.

The last two chapters highlight 3D acquisition and visualization. These chapters are extensively edited from the first edition. Current 3D technology is mainly simulation using "image sectioning" techniques or wire diagrams. The future in using this type of display will require quicker processing and drawing rates than

currently exist. It is not unique that advancements made in hardware are driven by software or visa versa, and is the case as "virtual reality" becomes another driving force.

In conclusion, the changes in the second edition are well ordered and provide consistent review. A major strength of this text is in the liberal use of examples. The hope is by illustrating operations and their representative images, readers can discover how and why to use them. This handbook may benefit a beginning or intermediate user and/or those readers who want to understand the processing issues found in many imaging applications. Other than being a useful addition to a reference library, all readers can gain from this author's experience and from his ability to cover the topic in an insightful and accessible manner.

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SACHS, Ignacy, éd. (1996) *Quelles villes, pour quel développement?* Paris, PUF (Coll. «Nouvelle encyclopédie Diderot»), 325 p. (ISBN 2-13-047267-2)

Dans cet ouvrage, paru quelques jours avant le «Sommet des villes» d'Istanbul organisé par les Nations Unies, Ignacy Sachs entendait manifestement contribuer à un débat dont on peut craindre qu'il ait tourné court. Pour ce faire, il avait réuni onze auteurs, de renommée internationale pour la plupart, et profité d'une collection aux ambitions encyclopédiques, qui entend transformer les produits de la recherche en authentique culture scientifique, assimilable bien au-delà des sphères de leur production.

Le livre, qui est divisé en trois parties, s'ouvre par une magistrale présentation de cinq millénaires de croissance urbaine. Paul Bairoch réussit en effet le miracle d'opérer la synthèse de cette très longue durée en 40 pages pleines de nuances. Loin d'un simple exercice d'érudition, il s'agit d'une mise en perspective des grands thèmes qui sont ensuite déclinés: les relations entre démographie, économie et établissements humains; les multiples aspects de la ruralité; l'inflation urbaine du tiers monde et la stagnation actuelle du taux d'urbanisation occidentale; la coexistence de villes parasites et génératrices. Ces deux derniers vocables furent proposés par Bert Hoselitz en 1955 et connurent aussitôt une grande fortune critique, mais Maurice Aymard, interprète des

